ASF DESIGN CONSIDERATIONS FOR RADARSAT/ERS-2

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Alaska SAR Facility (ASF) has been operational since 1991 at the University of Alaska, Fairbanks (UAF) to collect, process, archive, and distribute Synthetic Aperture Radar (SAR) data from earth orbiting spaceborne instruments. Specifically, it has been collecting from European Remote Sensing Satellite-1 (ERS-1) and Japanese Earth Resources Satellite-1(JERS-1). European Space Agency expects to launch its second satellite in this series (ERS-2) in late 1994, and the Canadian Space Administration expects to launch RadarSat in early 1995. ASF plans to support both of these satellites.

In order to support these new missions, ASF must undergo design changes to ncw requirements for these mission. The new requirements include higher throughput for larger volume of data and versatility to handle more instruments and modes of instruments. In addition to meeting mission requirements for the new instruments, ASF must meet the requirements to be onc of the Distributed Active Archive Centers for the EOSDIS project.

Jet Propulsion Laboratory (JPL) is in the midst of designing and building ncw and updated capabilities for this new era of RadarSat/ERS-2 requirements. These include a ncw data acquisition planning capabilities to manage more satellites with global planning and to manage more than onc instrument mode; a new archive strategy to have a facility that is cheaper, faster, and better; a product generation systcm to produce data on demand and to produce data for the varied instruments and modes; and a product verification ability for the new and old products. In response to these new functional requirements, JPL is using a design approach that emphasizes an open systems, client/server architecture based on industry standards and commercial off-the-shelf technology. This approach will provide room for growth and flexibility in meeting future mission requirements.

This paper will discuss these new capabilities and the design considerations associated with meeting all of the requirements. In addition, the paper will discuss the performance issues and product specifications.